Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-11 (canceled).

Claim 12 (previously presented). A process for producing a microroughness on a surface, the process which comprises:

placing a substrate with a surface into a process chamber;

generating a process gas containing semiconductor material; and

in a single process step, forming semiconductor grains directly from the process gas and depositing the semiconductor grains with a given distribution on the surface and with a clear spacing between lateral surfaces of mutually adjacent grains, to form a microroughness on the surface substantially without a subsequent annealing process step.

Claim 13 (previously presented). The process according to claim 12, which comprises adjusting process parameters during the single process step to substantially avoid a formation of

a closed amorphous layer of semiconductor material on the surface.

Claim 14 (previously presented). The process according to claim 12, wherein the semiconductor material is selected from the group consisting of Si and Ge, and the process gas as a gas selected from the group consisting of SiH_4 and GeH_4.

Claim 15 (previously presented). The process according to claim 12, wherein the step of forming the semiconductor grains is performed in a temperature range between 500°C and 600°C.

Claim 16 (previously presented). The process according to claim 12, wherein the step of forming the semiconductor grains is performed at a pressure between 13 Pascal and 80 Pascal.

Claim 17 (previously presented). The process according to claim 12, wherein the step of forming the semiconductor grains is performed in a period lasting between 5 minutes and 60 minutes.

Claim 18 (previously presented). The process according to claim 12, wherein the surface is a surface selected from the

group consisting of an oxide surface, a nitride surface, and a silicon substrate surface.

Claim 19 (previously presented). The process according to claim 12, wherein the substrate is a Si substrate and the process further comprises precleaning the substrate prior to the placing step to provide a substantially oxide-free surface.

Claim 20 (previously presented). The process according to claim 12, which comprises diluting the process gas with an H_2 dilution in a range from 1:20 to 1:0.2 or with an N_2 dilution in a range from 1:100 to 1:5.

Claim 21 (previously presented). The process according to claim 12, which comprises providing a substrate with trenches formed in the surface, depositing the semiconductor grains on surfaces of the trenches, and depositing further material on the microroughness formed by the semiconductor grains substantially without an intermediate processing step following the forming step.

Claim 22 (previously presented). A process for producing a microroughness on a surface, the process which consists of:

providing a substrate with a surface;

exposing the surface to a process gas containing semiconductor material and forming semiconductor grains distributed on the surface with clear spacing between lateral surfaces of mutually adjacent grains and substantially without a continuous layer surrounding the grains directly from the process gas for producing the microroughness on the surface.

Claim 23 (previously presented). A process for increasing a surface area for a trench capacitor, the process which comprises:

providing a substrate with trenches having side walls and a bottom;

placing the substrate into a process chamber;

generating a process gas containing semiconductor material;

in a single process step, forming semiconductor grains directly from the process gas and depositing the semiconductor grains with a given distribution and with clear spacing between lateral surfaces of mutually adjacent grains and

substantially without a continuous layer surrounding the grains on the side walls and the bottom of the trenches and to immediately increase a capacitance of the trench capacitor with the microroughness formed by the semiconductor grains directly from the process gas, to form a microroughness and to increase a surface area in the trenches; and

depositing a capacitor dielectric on the microroughness substantially without an intermediate annealing process step following the depositing step.

Claim 24 (new). A process for producing a microroughness on a surface, the process which comprises:

placing a substrate with an oxide surface or a nitride surface into a process chamber;

generating a process gas containing semiconductor material; and

in a single process step, forming semiconductor grains directly from the process gas and depositing the semiconductor grains with a given distribution on the surface and with a clear spacing between lateral surfaces of mutually adjacent

grains, to form a microroughness on the surface substantially without a subsequent annealing process step.

Claim 25 (new). A process for producing a microroughness on a surface, the process which comprises:

placing a substrate with a surface into a process chamber;

generating a process gas containing semiconductor material; and

in a single process step, forming semiconductor grains directly from the process gas with low pressure chemical vapor deposition to thereby deposit the semiconductor grains with a given distribution on the surface and with a clear spacing between lateral surfaces of mutually adjacent grains, to form a microroughness on the surface substantially without a subsequent annealing process step.

Claim 26 (new). A process for producing a microroughness on a surface, the process which comprises:

placing a substrate with a surface into a process chamber;

generating a process gas containing semiconductor material and N_2 dilution in a range from 1:10 to 1:5; and

in a single process step, forming semiconductor grains directly from the process gas and depositing the semiconductor grains with a given distribution on the surface and with a clear spacing between lateral surfaces of mutually adjacent grains, to form a microroughness on the surface substantially without a subsequent annealing process step.